

# ANNUAL REPORT FOR 2012



**Sunset Beach Bridge Mitigation Site**

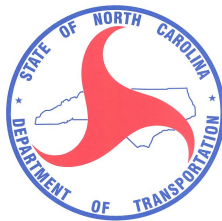
**Brunswick County**

**TIP No. B-0682**

**COE Action ID: SAW-1993-88-010**

**DWQ: 20061743**

**CAMA Permit #: 22-07**



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Natural Environment Section & Roadside Environmental Unit  
North Carolina Department of Transportation  
July 2012

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## **SUMMARY**

The Sunset Beach Bridge Mitigation Site is located in Brunswick County. The site was completed in May 2011 and was designed as mitigation for wetland impacts associated with bridge project B-0682.

The North Carolina Department of Transportation (NCDOT) will mitigate the project impacts of 2.368 acres by restoring 2.839 acres of brackish marsh wetlands. Of the 2.368 acres of project impacts, 0.410 acre was determined to be permanent impacts from erosion control devices. Once the devices are removed from the project and based on inspection and approval by the USACE and DCM, these impacts may be called temporary. The 0.410 acres would then be added back into the wetland assets onsite.

Division of Coastal Management permit (Permit # 22-07), does not convey or imply approval of the suitability of the excess mitigation generated by this project as compensatory wetland mitigation for any particular future projects. The use of any portion of the excess mitigation generated by this project as compensatory mitigation for future projects will be approved on a case-by-case basis during the CAMA permit review and/or consistency process.

The restoration effort involved removing the existing causeway fill and transition area along the southern approach to Bridge No. 198 to match the adjacent coastal marsh wetland elevation. Fill from an onsite temporary detour was also removed and graded to match the adjacent wetland elevation. Five cross sections were taken along the causeway from Station 33+00 to Station 44+00 (approximately every 200 feet to provide target wetland elevations). The excavated areas were to be ripped and disked prior to planting of the site if necessary. NCDOT shall monitor the restoration site by visual observation and photo points for survival and aerial cover of vegetation. NCDOT shall monitor the site for a minimum of three years or until the site is deemed successful.

After the second year of monitoring, the Sunset Beach Bridge Mitigation Site shows by visual observation that the planted species are surviving.

NCDOT proposes to continue vegetation monitoring at the Sunset Beach Bridge Mitigation Site in 2013.

## **1.0 INTRODUCTION**

### **1.1 Project Description**

The Sunset Beach Bridge Mitigation Site is located in Brunswick County at Bridge No. 198 over the Intercoastal Waterway and approaches on SR 1172 at Sunset Beach (Figure 1). The site consists of approximately 2.839 acres of coastal salt marsh wetland restoration associated with project B-0682. The roadway project will impact 2.368 acres of unavoidable wetlands, leaving approximately 0.471 acres of wetland restoration assets on-site (0.881 acres if the EC device area is approved as restoration).

### **1.2 Purpose**

In order for the mitigation site to be considered successful, the site must meet the vegetation success criteria. This report details the vegetation monitoring in 2012 at the Sunset Beach Bridge Mitigation Site. Hydrologic monitoring was not required for the site.

### **1.3 Project History**

May 2011	Marsh Grass Planting
July 2011	Vegetation Monitoring (Year 1)
July 2012	Vegetation Monitoring (Year 2)

## 1.4 Debit Ledger

Site name	Site TIP	HUC	River Basin	Division	County	Mitigation Type	Notes	As Built Quantity	Available	Debit
Sunset Beach Bridge	B-0682	03040207	Tar-Pamlico	3	Brunswick					B-0682
						Brackish Marsh Restoration		2.839	0.471	2.368*

**\*Of the 2.368 acres of project impacts, 0.410 acre were determined to be permanent impacts from erosion control devices. Once removed and based on inspection and approval by the USACE and DCM, these impacts may be called temporary.**

**Note: Debit ledger information up to date as of August 28, 2012.**

## **2.0 VEGETATION: SUNSET BEACH BRIDGE MITIGATION SITE (YEAR 2 MONITORING)**

### **2.1 Success Criteria**

#### **Mitigation Plan for Wetland Restoration**

Success Criteria states that NCDOT shall monitor the mitigation site by visual observation and photo points for survival and aerial cover of vegetation. NCDOT shall monitor the site for a minimum of three years or until the site is deemed successful. Monitoring will be initiated upon completion of the site planting.

### **2.2 Description of Species**

The following wetland species were planted in the Wetland Restoration Area:

*Spartina alterniflora*, Smooth Cordgrass

### **2.3 Results of Vegetation Monitoring**

The wetland restoration area was planted in May 2011. The impacted area where the old causeway was removed is re-attaining wetland jurisdictional status and the smooth cordgrass plants are surviving.

### **2.4 Conclusions**

There were approximately 2.839 acres planted on site. There were no plots established on the site. By visual observation, the Sunset Beach Bridge Mitigation Site shows that the planted species are surviving and the impacted areas are re-attaining wetland jurisdictional status.

## **3.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS**

NCDOT proposes to continue vegetation monitoring at the Sunset Beach Bridge Mitigation Site in 2013.



**APPENDIX A**

**SITE PHOTOS**



# Sunset Beach Bridge Mitigation Site



Photo 1



Photo 2



Photo 3

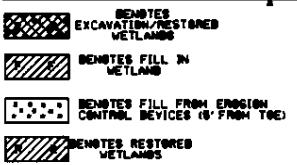


Photo 4



Photo 5  
July 2012

<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ADJUSTMENT	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



**NCDOT**  
DIVISION OF HIGHWAYS  
BRUNSWICK COUNTY  
PROJECT#HS115 0-6100  
BRIDGE "115 OVER THE  
INTERCOASTAL WATERWAY AND  
APPROACHES ON SR1173  
AT SUNSET BEACH

<b>PURCHASER'S NAME</b>	<b>SHEET NO.</b>
<b>B-086</b>	<b>6</b>
<b>NW CORNER CO.</b>	
<b>REMARKS:</b>	<b>MATERIALS:</b>
<b>B-086-001</b>	<b>B-086-001</b>

<b>INCOMPLETE PLANS</b> <b>DO NOT USE FOR ANY ADJUSTMENT</b>
<b>PRELIMINARY PLANS</b> <b>DO NOT USE FOR CONSTRUCTION</b>

$\lambda$	$\mu$	$\sigma$
$\Delta$ Sh 4810.48	$\Delta$ Sh 2148.08	$\Delta$ Sh 2148.03
$\Delta = 14.92$ (LT)	$\Delta = 9.58$ (LT)	$\Delta = 14.92$ (LT)
$\sigma = 2.30$ (km)	$\sigma = 2.30$ (km)	$\sigma = 2.30$ (km)
$\mu = 50.15$	$\mu = 50.15$	$\mu = 50.15$
$\lambda = 14.92$	$\lambda = 14.92$	$\lambda = 14.92$
$R = 2.28 \pm 0.37$	$R = 2.28 \pm 0.37$	$R = 2.28 \pm 0.37$
$SE = 0.3$	$SE = 0.3$	$SE = 0.3$

